

Remarks/Arguments

In the Office Action dated November 24, 2009, it is noted that claims 1-16 and 18-28 are pending in this application and that claims 1-16 and 18-28 stand rejected under 35 U.S.C. §102.

Claim 17 was previously cancelled without prejudice. No new matter has been added.

Cited Art

The following reference has been cited and applied in the present Office Action: U.S. Patent 6,701,528 to Arsenault et al. (hereinafter referenced as "Arsenault").

Rejection of Claims 1-16 and 18-28 under 35 U.S.C. §102

Claims 1-16 and 18-28 stand rejected under 35 U.S.C. §102 as being anticipated by Arsenault. This rejection is respectfully traversed.

Claims 1 and 14 are independent method claims. Claims 16 and 23 are independent apparatus claims. Claims 2-13 and 28 depend, either directly or indirectly, from claim 1 and include all the limitations thereof. Claim 15 depends directly from claim 14 and includes all the limitations thereof. Claims 18-22 depend, either directly or indirectly, from claim 16 and include all the limitations thereof. Claims 24-27 depend, either directly or indirectly, from claim 23 and include all the limitations thereof.

Claims 1-13 and 28

Claim 1 calls, in part, for:

A method for providing video on demand playback, comprising:

...

receiving at said VoD player a key table containing packet count information corresponding to the number of data packets contained in at least one of said program segments; and

identifying an end point of at least one of said plurality of program segments by counting a number of data packets that are decoded for playback.

None of the limitations shown above in claim 1 are taught, shown, or suggested by Arsenault.

Arsenault appears to teach a Video On Demand or Near Video On Demand system in which a plurality of program segments are recorded and stored in a relatively short time for playback by the user. Various cited sections of Arsenault will now be reproduced in order to show the patentable differences between the pending claims and the teachings of Arsenault.

One section (hereinafter the "first cited section") of Arsenault applied against the claims is reproduced below in its entirety from col. 8, lines 7-51 as follows:

The data packets are assembled using a reference from the system clock 314 (SCR), and from the conditional access manager 308, which provides the SCID to the packetizers 304 for use in generating the data packets. These data packets are then multiplexed into serial data and transmitted.

FIG. 4A is a diagram of a representative data stream. The first packet segment 402 comprises information from video channel 1 (data coming from, for example, the first video program source 300A). The next packet segment 404 comprises computer data information that was obtained, for example from the computer data source 306. The next packet segment 406 comprises information from video channels (from one of the video program sources 300), and the next packet segment includes information from video channel 1 (again, coming from the first video program source 300A). The data stream therefore comprises a series of packets from anyone of the data sources in an order determined by the controller 316. The data stream is encrypted by the encryption module 318, modulated by the modulator 320 (typically using a QPSK modulation scheme), and provided to the transmitter 322, which broadcasts the modulated data stream on a frequency bandwidth to the satellite via the antenna 106. The receiver 200 receives these signals, and using the SCID, reassembles the packets to regenerate the program material for each of the channels.

As shown in FIG. 4A, null packets created by the null packet module 312 may be inserted into the data stream as desired.

FIG. 4B is a diagram of a data packet. Each data packet (e.g. 402-416) is 147 bytes long, and comprises a number of packet segments. The first packet segment 420 comprises two bytes of information containing the SCID and flags. The SCID is a unique 12-bit number that uniquely identifies the data packet's data channel. The flags include 4 bits that are used to control whether the packet is encrypted, and what key must be used to decrypt the packet. The second packet segment 422 is made up of a 4-bit packet type indicator and a 4-bit continuity counter. The packet type identifies the packet as one of the four data types (video, audio, data, or null). When combined with the SCID, the packet type determines how the data packet will be used. The continuity counter increments once for each packet type and SCID. The next packet segment 424 comprises 127 bytes of payload data, which is a portion of the video program provided by the video program source 300. The final packet segment 426 is data required to perform forward error correction.

Regarding the first cited section of Arsenault, the same discloses the use of SCIDs, wherein a SCID is explicitly defined in the first cited section of Arsenault as a "unique 12-bit number that uniquely identifies the data packet's data channel", and thus not packet count information as recited in Claim 1. That is, a SCID as defined by Arsenault, namely an identifier for a particular data channel, does not correspond to packet count information as recited in Claim 1. Moreover, the first cited section of Arsenault discloses a continuity counter that is incremented once for each packet type and SCID and, thus, does NOT represent packet count information but rather packet type (video, audio) and channel information. That is, a continuity counter as disclosed in Arsenault, that collectively represents a particular type of packet (video, audio, etc.) and a particular data channel, does not correspond to packet count information as recited in Claim 1.

Hence, the first cited section of Arsenault fails to teach "receiving at said VoD player a key table containing packet count information corresponding to the number of data packets contained in at least one of said program segments", as defined in claim 1.

Another section (hereinafter the "second cited section") of Arsenault applied against the claims is reproduced below in its entirety from col. 1, line 63 through col. 2, line 21 as follows:

In summary, the present invention describes a system and method in which an integrated receiver/decoder (IRD) or similar device is used to select and store programs to support video on demand. In one embodiment, programs are selected by use of a broadcaster-controlled attribute, such as a flag in a program guide. In another embodiment, this is accomplished by a customer setup profile (e.g. programs with DOLBY digital or programs of a specific genre). The IRD scans the program guide to identify VOD candidates, and based on the start times in the program guides and transport streams, the schedules the pre-recording of segments of the identified programs.

The scheduled pre-recording of segments of the identified programs can occur at a rate that is faster than real time. To accomplish this, the IRD scans the program guide and learns the start time for each of the NVOD candidates. When multiple staggered program start times are found, the IRD determines which portions of the program can be received and stored in parallel in order to pre-record all relevant program segments in the shortest time. IRDs with single tuners acquire staggered start times that are on the same transport stream, while multi-tuner IRDs can collect data from many transport streams. After the storage process is complete, the customer is informed (for example, by the program guide), that the video program is available for VOD playback.

Regarding the second cited section of Arsenault, while the same appears to disclose receipt of program segments, there is no statement of receipt of data even remotely resembling the "key table" defined in the claims. Nowhere does Arsenault even hint at the existence of, or need for, "a key table containing packet count information corresponding to the number of data packets contained in at least one of said program segments", as defined in claim 1. A complete review of the Arsenault reference also results in a similar conclusion. Thus, Arsenault fails to teach all the limitations of claim 1.

In certain modes of operation, Arsenault discloses receipt of a purchase information packet or "PIP". See *Arsenault at col. 9, lines 20-36, for example.* But the PIP is not even suggestive of "a key table containing packet count information corresponding to the number of data packets contained in at least one of said program segments", as defined in claim 1. The PIP includes user information about purchasability for the program(s) of interest for the user. According to Arsenault, the PIP information includes "blackouts, rating, credit balance, etc." See *Arsenault at col. 9, line 36.*

Hence, the second cited section of Arsenault also fails to teach "receiving at said VoD player a key table containing packet count information corresponding to the number of data packets contained in at least one of said program segments", as defined in claim 1.

Additionally, Arsenault fails to teach "identifying an end point of at least one of said plurality of program segments by counting a number of data packets that are decoded for playback", as defined in claim 1. The only determination apparently disclosed by Arsenault is that of which "which portions of the program can be received and stored in parallel in order to pre-record all relevant program segments in the shortest time." See *first cited section of Arsenault above.* Arsenault's determination is not defined in any manner which resembles or suggests the identification of an end point of at least one program segment, as defined in the claims. There is no statement in the quoted section of Arsenault or, for that matter, anywhere else in the Arsenault reference that suggests counting the number of data packets decoded for playback in order to identify the end point of a program segment, as defined in claim 1.

For example yet another section (hereinafter the "third cited section") of Arsenault applied against the claims is reproduced below in its entirety from col. 12, lines 8-20 as follows:

Turning to FIG. 7B, the subsequent segments 806 are spliced to the pre-stored segment 804 using the techniques set forth herein. In one embodiment, the splicing of segments is prioritized according to point in the video program currently selected by the user. If the user is viewing the video program from start to end, without interruption, fast forward, or rewind, the end of the pre-stored segment 804 is spliced to the beginning

of subsequent segment 806D first, and then the beginning of each subsequent segment is spliced to the end of the preceding subsequent segment (hence, after splicing, the order of the segments is pre-stored segment 804, subsequent segment 806D, subsequent segment 806C, etc.).

Regarding the third cited section, the same simply discloses segment splicing is prioritized according to a point in the video program selected by the user, and does NOT disclose identifying an end point of at least one segment by counting a number of data packets that are decoded for playback as essentially recited in Claim 1. While the third cited section simply mentions the beginning and the end of segments regarding splicing, it does NOT disclose how the beginnings or the ends of the segments are identified, let alone counting a number of data packets to identify the end point of a segment as essentially recited in Claim 1. Hence, the third cited section clearly fails to disclose "identifying an end point of at least one of said plurality of program segments by counting a number of data packets that are decoded for playback", as defined in claim 1.

Still another section (hereinafter the "fourth cited section") of Arsenault applied against the claims is reproduced below in its entirety from col. 11, lines 23-44 as follows:

FIGS. 7A and 7B describe a flow chart presenting exemplary method steps used to practice one embodiment of the present invention. First, as shown in FIG. 7A, at least one of a plurality of video programs is selected 702 for video service. The point in time at which the plurality of video programs was selected for VOD service is indicated as t_0 . A first segment of the selected video program is then received and stored. This is illustrated in block 704 of FIG. 7A and by the "pre-store" interval 804 extending from time tp_1 to time tp_2 in FIG. 8A. Typically, the time length of the pre-stored video program material segment 804 is equal to the rebroadcast interval tR 604. This allows all of the subsequent time segments 806A-806D (collectively referred to hereinafter as subsequent time segment(s) 806) of the video program to be recorded while the pre-stored video program segment 804 is played back for viewing. However, the length of the pre-stored video program material segment can be greater than the rebroadcast interval 604, to provide

additional video program material for use in splicing the subsequent segments 806 to the pre-stored segment 804, or to provide additional time for the splicing process to be completed.

Regarding the fourth cited section, the same simply discloses a point in time ts at which the plurality of video programs was selected for VOD service, a pre-store interval (from time tp1 to time tp2) for the first segment of the selected video program during which such interval is received and stored, and a rebroadcast interval tR. It is clear that none of the point in time ts, the pre-store interval (tp1 to tp2), or the rebroadcast interval tR correspond to "identifying an end point of at least one of said plurality of program segments by counting a number of data packets that are decoded for playback", as defined in claim 1. For example, the point in time ts simply corresponds to a time at which a program was selected, the pre-store interval (tp1 to tp2) simply corresponds to when a first segment of the program is received and stored, and the rebroadcast interval tR simply corresponds to when the program is again broadcast (see, e.g., Arsenault, col. 11, lines 7-22). None of the preceding are mentioned with respect to "identifying an end point of at least one of said plurality of program segments by counting a number of data packets that are decoded for playback", as defined in claim 1. For example, none of the words "end" or "counting" or "packets" are mentioned in the cited portion of Arsenault, let alone all of the preceding above reproduced limitations of Claim 1. Again, a complete review of the Arsenault reference results in the same conclusion with respect to the "identifying" limitation of claim 1. Thus, Arsenault fails to teach all the limitations of claim 1.

In light of the remarks above, it is believed that the elements of claim 1 are not anticipated by Arsenault and these elements of claim 1 would not have been obvious to a person of ordinary skill in the art upon a reading of Arsenault, either separately or in combination with known prior art. Thus, it is submitted that claim 1 is allowable under both 35 U.S.C. §102 and 35 U.S.C. §103. Withdrawal of this rejection is respectfully requested.

As noted above, claims 2-13 and 28 depend, either directly or indirectly, from claim 1 and include all the limitations thereof. Since claim 1 is believed to be allowable over Arsenault, it is submitted that claims 2-13 and 28 are also allowable over Arsenault

for at least the same reasons discussed above. Therefore, it is believed that claims 2-13 and 28 are allowable under both 35 U.S.C. §102 and 35 U.S.C. §103. Withdrawal of this rejection is respectfully requested.

Claims 14 and 15

Claim 14 calls in part for "broadcasting one or more earlier ones of said plurality of segments, that chronologically are intended to precede later segments in said program, **more frequently than said later segments.**" [Emphasis supplied]. While Arsenault appears to disclose the concept of a pre-stored segment, Arsenault fails to show any appreciation or desire for broadcasting such a pre-stored segment more frequently than any other portion of the program. Arsenault's Figures 6 and 8 clearly indicate that all programs segments are broadcast and received on a regular periodic basis. There is no showing or suggestion in Arsenault that one program segment is broadcast more frequently than another program segment. Moreover, there is a failure by Arsenault to show the more frequent broadcast of any segments that chronologically are intended to precede later segments in said program, as defined in claim 14.

For example, column 11, lines 7-22 of Arsenault disclose the following with respect to cited Figure 6:

FIG. 6 is a diagram illustrating the transmission of a video program to provide near video on demand (NVOD service). NVOD service is accomplished by broadcasting the same video program 602 on a plurality of program channels with each channel temporally separated by a rebroadcast interval 604. As shown in FIG. 6, the video program can be broadcast at 5:00 on channel 1 (using the appropriate SCID), 5:30 on channel 2, 6:30 on channel 3, and so on. Using this broadcast technique, the video program can be viewed from the beginning to the end, without requiring the user to wait for more than 30 minutes (hence, providing near video on demand). As shown in FIG. 6, this means that at any particular time, during an time interval 606, different time segments of the video program 608A-608E (hereinafter referred to collectively as segments 608) are broadcast in parallel, and can be received by the receiver 200.

As is evident from the preceding portion of Arsenault (as argued above), Arsenault simply rebroadcasts a program on a regular periodic basis, and does not even remotely teach or suggest "broadcasting one or more earlier ones of said plurality of segments, that chronologically are intended to precede later segments in said program, more frequently than said later segments" as recited in Claim 14.

Thus, Arsenault fails to teach all the limitations of claim 14. Since claim 15 depends directly from claim 14 and includes all the limitations thereof, it is submitted that Arsenault also fails to teach all the limitations of claim 15.

In light of the remarks above, it is believed that the elements of claims 14 and 15 are not anticipated by Arsenault and these elements of claims 14-15 would not have been obvious to a person of ordinary skill in the art upon a reading of Arsenault, either separately or in combination with known prior art. Thus, it is submitted that claims 14 and 15 are allowable under both 35 U.S.C. §102 and 35 U.S.C. §103. Withdrawal of this rejection is respectfully requested.

Claims 16 and 18-22

Claim 16 calls, in part, for "means for receiving and storing a key table containing packet count information corresponding to a number of data packets contained in at least one of said program segments." This limitation is substantially similar to the limitation in claim 1 defining the key table. For all the reasons set forth above with respect to claim 1 concerning Arsenault and the "key table" limitation, it is submitted that Arsenault fails to teach all the limitations of claim 16.

In light of the remarks directly above and with respect to claim 1, it is believed that the elements of claim 16 are not anticipated by Arsenault and these elements of claims 16 would not have been obvious to a person of ordinary skill in the art upon a reading of Arsenault, either separately or in combination with known prior art. Thus, it is submitted that claim 16 is allowable under both 35 U.S.C. §102 and 35 U.S.C. §103. Withdrawal of this rejection is respectfully requested.

As noted above, claims 18-22 depend, either directly or indirectly, from claim 16 and include all the limitations thereof. Since claim 16 is believed to be allowable over Arsenault, it is submitted that claims 18-22 are also allowable over Arsenault for at least

the same reasons discussed above. Therefore, it is believed that claims 18-22 are allowable under both 35 U.S.C. §102 and 35 U.S.C. §103. Withdrawal of this rejection is respectfully requested.

Claims 23-27

Claim 23 calls in part for "means for broadcasting one or more earlier ones of said plurality of segments, that chronologically are intended to precede later segments in said program, more frequently than said later segments." [Emphasis supplied]. This limitation is substantially identical to the method limitation discussed above with respect to claim 14. For all the reasons set forth above with respect to claim 14 concerning Arsenault and the above-cited limitation, it is submitted that Arsenault fails to teach all the limitations of claim 23.

In light of the remarks directly above and with respect to claim 14, it is believed that the elements of claim 23 are not anticipated by Arsenault and these elements of claims 16 would not have been obvious to a person of ordinary skill in the art upon a reading of Arsenault, either separately or in combination with known prior art. Thus, it is submitted that claim 23 is allowable under both 35 U.S.C. §102 and 35 U.S.C. §103. Withdrawal of this rejection is respectfully requested.

As noted above, claims 24-27 depend, either directly or indirectly, from claim 16 and include all the limitations thereof. Since claim 23 is believed to be allowable over Arsenault, it is submitted that claims 24-27 are also allowable over Arsenault for at least the same reasons discussed above. Therefore, it is believed that claims 24-27 are allowable under both 35 U.S.C. §102 and 35 U.S.C. §103. Withdrawal of this rejection is respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that all the claims pending in this patent application are in condition for allowance. Entry of this amendment, reconsideration, and allowance of all the claims are respectfully solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested

that the Examiner contact the Applicants' attorney, so that a mutually convenient date and time for a telephonic interview may be scheduled for resolving such issues as expeditiously as possible.

In the event there are any errors with respect to the fees for this response or any other papers related to this response, the Director is hereby given permission to charge any shortages and credit any overcharges of any fees required for this submission to Deposit Account No. 07-0832.

Respectfully submitted,
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